

This document was authored by
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to form a foundation for future discussions of the distribution of
public visible-infrared spectral libraries.

DRAFT Recommendations for Distribution of Laboratory Spectroscopic Data

Driving Constraints:

1. **Immediate Programmatic Need:** Enormous magnitude of new high quality spectroscopic data is being obtained by current and projected Mars missions.
2. **Availability:** Data for interpretive base needs to be made easily accessible by and for the diverse science community.
3. **Timeliness.** Data distribution should occur relatively quickly in order to mesh with mission data availability (and the need for science applications).
4. **Acknowledgments.** Investigators (PI's) should be acknowledged for their contributed data.
5. **Simplicity.** The procedure *must be simple* to implement and not be a burden on the PI.

Mode Options:

- A. **PI mode:** PI places data on the web at their own site using PDS Guidelines*. PDS is informed and lists the web link with other spectroscopic data.
- B. **PDS facilitator mode:** PI sends data in a format comparable to PDS Guidelines* to the designated PDS facilitator. Data is placed on the web, probably with two possible download options (bulk or individual spectra).

Oversight: PDS Geoscience Node and Subnode

The basic philosophy is to encourage a rapid and efficient means of exchanging valuable spectroscopic laboratory data among the science community in order to expand and sustain a strong foundation for science analysis.

Cumulative web-based data links are to be maintained through the PDS using logical categories.

It is recognized that this structure is created on a 'best effort' basis and no investigator is required to meet additional specific demands of community members beyond the guidelines outlined here or those negotiated during program management. [ie. PIs should provide their data and supplemental information in a form and scope that is most logical to them within guidelines.] Character and depth of data made available will necessarily be diverse. Although reasonable care in data preparation cannot guarantee error-free data, every effort will be made for the highest quality of data and reasonable sustainability.

PDS will perform regular backups and/or creates a mirror site to mitigate against computer failure at any given participating site.

***PDS Guidelines** [DRAFT]: Items I, II, and III are to be required; items IV and V are strongly recommended.

I. A brief **description of the data** set including a statement of how the data and PI should be acknowledged if the data are used by other investigators. Address and contact information is recommended, but optional. In addition to a simple listing by PI, this will be the lead information guiding potential science users to the data.

II. Table of Information. [examples to be provided]

Format. Any readily readable computer format (Excel, Word, tab delimited ASCII). The first line(s) should label the items in each column. Supplemental optional file(s) are encouraged (in IV and V below).

Contents: Separate columns with the following items (*required)

- *Sample name [as defined by PI]
- *Data fileID [unique ID defined by PI; identifies data in III below]
- *Data type [emission,, BDR, transmission, hemispheric R; biconical R; etc...]
- *Physical description (particle size, thin section, slab, etc.)
- *Classification (mineral, rock type, soil, etc.)
- *Origin (location, geology, planet, experimental, etc.)
- *Date of release (this minimizes confusion with updates)
- Mineralogy fileID (see IV below; unique ID assigned by PI)
- Elemental Composition fileID (see IV below; unique ID assigned by PI)
- Instrument [model # or description]
- Reference Standard [gold, halon, blank, etc.]
- Quality ranking
- Date of acquisition
- Analysis History
- Other relevant variable (geometry, P, T, etc.)
- Comments

III. Data files.

Format. Any readily readable computer format (Excel, Word, tab delimited ASCII). The first few lines should label the items in the column and the units used.

Contents: Separate columns for each (typically wavelength, data, sigma)

IV. Compositional Data files (Mineralogy, Elemental composition)

Format. Any readily readable computer format (Excel, Word, tab delimited ASCII). The first line(s) should label the items in each column and the units. Brief supplemental text file(s) should be provided in V to identify the instrument used and describe the type of measurements.

Column Contents: composition, value, sigma

V. Background information

- References, publications using the data, etc.
- Instrument and measurement descriptions
- Sample preparation
- Examples, etc.